

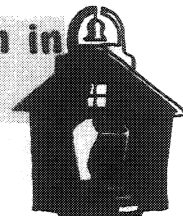
## Chapter 4 *Nutrition Education*

### Module 3: Nutrition Education in School

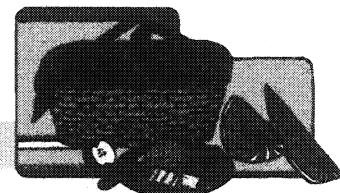
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**Step Up and Out to include nutrition education in school curriculum!**



The classroom is definitely an environment that creates an impression on a child! Just think of the amount of time a child spends at school, learning habits as well as facts. Nutrition education in the classroom presents many kinds of *exciting learning* opportunities that can lead to healthy choices! With good planning, nutrition education will provide balance to all of the misinformation in our lives—the type of balance that is hard to find anywhere else!



### **The Step Up and Step Out model**

Use a “picnic basket” of ideas to create the plan that works best in your community. All of the following concepts have been proven favorites to create the best possible “menu”:



- ♥ Integrate a nutrition education curriculum into health units and other core subjects
- ♥ Provide teacher training for general nutrition and use of nutrition curriculum
- ♥ Incorporate student worksheets, food tasting, small group activities, and class discussion
- ♥ Arrange for volunteers to serve as role models and provide general assistance
- ♥ Facilitate field trips and special activities such as supermarket tours, and lunch at a fast food restaurant
- ♥ Provide incentives for teachers to implement the curriculum, i.e. classroom materials and ideas, recognition, or increased awareness of the effect healthy choices have on learning outcomes

## Nutrition Education Methods

Imagine you are 10 years old and you can vote for one of two ways to learn about the Food Guide Pyramid.

### Method I:

You can either read a lesson and then take a written test about fats or sugars in foods...or

### Method II

You can work in a "mini" learning lab where you measure the amount of fat (or sugar) in various foods so that you can "see" how much each food contains.

### Which method would *you* choose?

There are four key ingredients to be included in a recipe for school nutrition education methods.

### Recipe for Healthy Nutrition Education

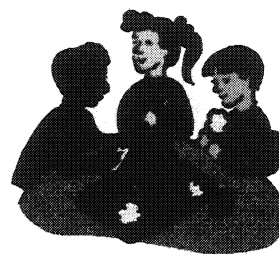
#### Ingredients:

**Play!**

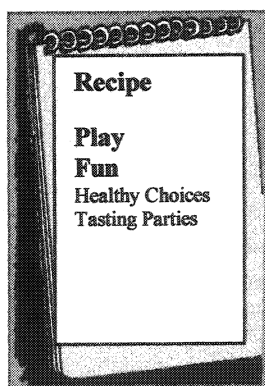
**Fun!**

**Healthy choices!**

**Tasting Parties!**



**Directions: Mix all ingredients until well blended. Bake until done. Serves all!**



### Play (1) and fun...the first two ingredients

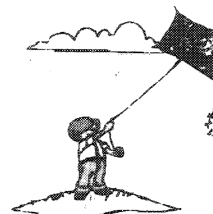
Do you remember being excited as a child? Feeling like you had all the energy in the world? Do you remember?

- ♥ Splashing, and jumping in rain puddles...
- ♥ Roller-skating...
- ♥ Talking on a "telephone" made of string and tin cans...
- ♥ Making "mud pies"... or
- ♥ Playing under a "tent" made of sheets stretched over chairs

Do you remember that feeling? When you felt totally absorbed and overflowing with curiosity and enjoyment? For these reasons, play is a method of learning that can and should be incorporated in a nutrition education curriculum!

Wait! There is more to convince you play must be included in a nutrition curriculum! It provides a way for kids to practice actions without judgment and consequences. It allows them to (1):

- ♥ Experiment
- ♥ Explore
- ♥ Discover
- ♥ Manipulate
- ♥ Create



Most very young children view physical activity as fun and nutrition can be too. All we need to do is nurture the enjoyment to maintain a good level of enthusiasm. Good nutrition depends on making healthy choices that requires practice (play). The following examples show how these messages lend themselves very well to a “play approach” to learning!

## Play creates opportunities for learning

The possibilities to use play for nutrition activities and the lessons to be learned are boundless. The teaching points, lessons and activities are ideas for teachers. Coalition members can support their efforts by volunteering to help in the classroom or offering recognition for their efforts.

### Teaching Point

- ♦ **Play is a process of learning where even mistakes or failure are opportunities to learn. (1)**

### Example:



#### Potato Bar

Students planning for a healthy “potato bar meal” may make mistakes by choosing lots of high fat toppings, such as cheese, sour cream, bacon bits, and margarine, creating a very high fat meal.

However the “mistake” creates a learning opportunity when they are shown how much fat the toppings provide and learn how to make healthy choices without totally giving up higher fat foods.

**Teaching Point**

- ◆ **Children engaged in fun play are intrigued with the mental and physical challenges, and do not become tired or bored with the subject. (1)**

**Examples:**



**1. Food Models**

Reading a lesson and taking a test may be boring. Using food models to build your own healthy meal is fun!

**2. Science Experiments**

A class discussion about green vegetables becomes *real* when green vegetables, i.e. raw spinach, green peppers, and endive are a part of a classroom snack. It becomes mentally challenging when it is a science experiment about how acid (lemon juice) and alkaline (baking soda) change the color of some foods from red to blue or back again!

Nothing creates more interest than touching, feeling, seeing, tasting, and experimenting with the foods you are talking about!

**Examples:**



**1. Classroom Restaurants**

Making choices on a “classroom restaurant menu” can create a plan for healthy choices when eating out in the “real world”. Other subject matter can be integrated when some children become restaurant servers, taking food orders and handling money transactions.

**2. Choices, Choices**

Students can choose from a “snack” buffet and then check their choices for good balance. A buffet that provides a variety of foods can demonstrate many different ways that foods can be selected to have good balance.

**Teaching Point**

- ◆ **During play, children can freely choose and create situations that work for them. They can then take responsibility for their choices, and gain a feeling of competence. (1)**

### Teaching Point

- ♦ In homework “play”, parents can become true partners in learning with their children. Together, parents and children can master new ideas and find ways to incorporate healthy eating and activity into the lives of the family.
- (1)

### Example:



#### Healthy Snacks

A homework assignment that identifies healthy snacks in the home provides opportunities for discussion and learning. Learning extends to the classroom when students have show and tell with snack labels they identified at home.

In summary, play gives children opportunities to

- ♥ Make choices
- ♥ Consider options
- ♥ Recognize consequences
- ♥ Build teamwork
- ♥ Interact with peers in a non-threatening situation
- ♥ Accept and challenge
- ♥ Learn from each other's views
- ♥ Justify their thoughts

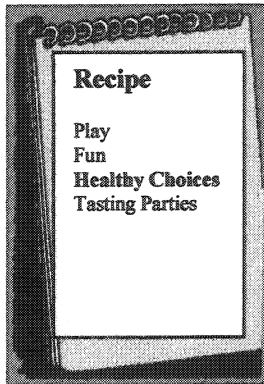


## Using a play approach to integrate

A play approach can make it easy to integrate not only nutrition, but also physical activity messages with other subjects. Examples of methods that integrate nutrition with other subject matter:

- ♥ Measuring quantities of food—math and science
- ♥ Reading labels—math, social studies, and reading
- ♥ Cooking—math, science, social studies, history and reading
- ♥ Tasting—math, science, history, and social studies
- ♥ Developing menus for different cultures and time periods—math, history, geography, and social studies

In addition, all of these lessons can easily be integrated with literature, art, and music.



## Healthy Choices are the third ingredient in a nutrition curriculum recipe

For teaching healthy choices, the Food Guide Pyramid:

- ♥ Is recognized as a practical guide for choosing a healthy eating pattern
- ♥ Calls for eating a variety of foods with balance for good nutrition and weight maintenance
- ♥ Is a guide for balancing fat choices
- ♥ Shows how all foods can fit in a healthy diet

## Teaching nutrition concepts

The following teaching points and activities (2) give examples of the “play” method in action!



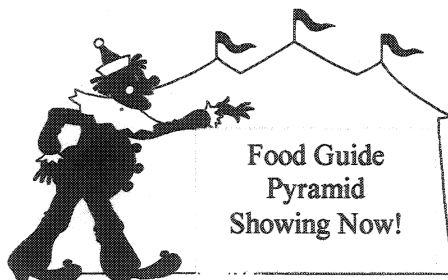
### Variety

#### Teaching Point

Eat a variety of foods each day to best meet your calorie and nutritional needs.

#### Activity

Use a blank Food Guide Pyramid Sheet for this activity. Have students write down all the vegetables they LIKE and eat at least 1 time per week in the “Vegetable Box” of the Food Guide Pyramid. After writing what they eat, discuss whether or not there is much variety, and if there is room for improvement. Discuss ideas for change and improvement.



## Proportion



### Teaching Point

Choose foods from all five major food groups; choose more servings from the Grain, Vegetable, and Fruit groups than the other Pyramid groups.

### Activity

**Materials needed:** 8-inch x 1-inch strips of construction paper in 6 different bright colors (each color representing a Food Guide Pyramid Food Group); glue sticks.

Show students the Food Guide Pyramid on a handout or overhead. Talk about the number of servings recommended daily for each food group. This is the proportion suggested to help us enjoy of variety of foods. Have students build a food chain of the foods they have eaten in the last 24 hours, using different color of construction paper to cut into strips to represent each Pyramid Food Group, i.e., yellow for Grains/Breads; Green for Vegetables; etc. Have students look at their food chain and see what changes they could make for a healthier Pyramid. Talk about the things that affect your chain, like holidays, weekends, and travel.

## Balance



### Teaching Point

Eat a variety of foods in moderation, and balance this with regular physical activity.

### Activity

**Materials needed:** Paper plates, upbeat music, tape player, chairs.

Discuss how healthy eating should be balanced with physical activity; activity should be geared to enjoyment, your skills, and physical activities. Go through a stretch activity. Lead them through a gentle series of upper and lower body stretches while sitting/standing. Use paper plates for upper body resistance. Try doing oldie goldie dances, such as the Jerk, the Swim, the Monkey, the Pony, the Hula, the Freddie, etc.

## Fat



### Teaching Point

Recognize the sources of fat in your diet, and limit these sources when making your food choices.

### Activity

Ask students the day before the activity to bring in empty packages of snack foods (or accumulate these yourself over time to use for the activity). Ask for 4 volunteers and divide them into 2 teams (The Cholesterol Counters and Triglyceride Trackers). Have each team layout the empty packages in order of most to least fat without looking at the labels. Ask the audience for their input. Next look at the labels, and put the packages in proper sequence. Compare the fat in these products with the fat in Fruits, Vegetables, and Most Grains. Discuss how fat is sometimes "hidden" and we need to recognize items with the "most fat" to balance them with the lower fat foods and physical activity.

## Choices



### Teaching Point

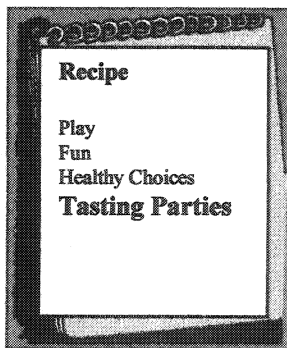
Make healthy choices from the major Pyramid Food Groups with less fats, oils, and sweets for healthy balance.

### Activity

**Materials needed:** choose examples of different foods representing 6 grains, 2 fruits, 3 Veggies, 2 Dairy, 2 Meats, 1 Fat or Sweet, and write one food on a slip of paper to give to each student i.e., there will be 16 slips with different foods, such as an apple, a glass of milk, etc.

Discuss whether or not students recognize all foods can fit each day with good choices in healthy eating and physical activity. Discuss how the Food Guide Pyramid is a fun and easy way to make good choices. Ask students to build a Food Guide Pyramid. Have them link with other students who have a food in the same food group. Have the groups then build a Pyramid by lining up in this manner in the room.





### **The Tasting Party . . . the fourth key factor in nutrition learning**

Tasting parties provide valuable opportunities for learning. In addition, introducing new and healthy foods as part of nutrition education curriculum is an excellent way to build lifetime nutrition habits, and introduces students to a variety of foods.

### **Tasting Parties**

- ♥ Provide practical, hands-on learning experiences
- ♥ Reinforce the educational objectives of
  - Teamwork
  - Problem solving
  - Creative thinking
  - Communicating
- ♥ Are integral when using nutrition as a thematic teaching approach



### **Themes to teach nutrition**

The following example (4) demonstrates how a particular food can be used as a theme. It touches on many different subjects!

#### **Example:**



**A seemingly simple lesson on preparing applesauce teaches so much more than how to cook apples. It initiates a flood of educational objectives:**

- ♥ Reviewing class rules on food preparation teaches sanitation, safety, and hygiene
- ♥ Preparing the recipe teaches safety, teamwork, and social skills
- ♥ Researching the nutrients in apples teaches ways to live healthful, productive lives
- ♥ Seeing, touching, smelling, and tasting the apples helps children experience the identification of colors, textures, shapes, aromas, and practice the communication skills of listening and talking
- ♥ Writing or reading about the apples reinforces communication skills
- ♥ Dividing apples in equal parts or measuring a half cup is living math
- ♥ Watching the apples change form while cooking is science happening



- ♥ Comparing the taste of fresh applesauce to canned or frozen applesauce involves critical thinking and evaluation skills
- ♥ Predicting and graphing class results of the tasting experience helps make interpretation of the graphs easier, as well as reinforces critical thinking, creativity, and various math skills
- ♥ Reading food labels and examining the nutrition information also involves critical thinking
- ♥ Comparing the cost and nutritional information of different apple products and calculating the calories and percent of fat in those products incorporates critical thinking and higher math skills
- ♥ Designing a restaurant menu around the apple theme involves creative thinking
- ♥ Examining and comparing food labels teaches investigative and communication skills
- ♥ Finding how different cultures include apples in their diet and prepare typical recipes, gives an appreciation of various cultures



## Nutrition education curriculum

The tips and activities presented in this module do not provide a comprehensive, grade-level specific, nutrition education curriculum. They do provide suggestions for taking steps to integrate nutrition education into practices where little nutrition education exists, or to enhance current practices. Communities are encouraged to work with their school systems to develop policies and practices for institutionalizing a comprehensive health initiative that includes nutrition and physical activity at all grade levels.

The National Center for Education Statistics, U.S. Department of Education published a report February 2000 (5). The report presents findings from a survey designed as a follow-up to the 1996 school study to obtain data on nutrition education in elementary school classrooms to inform current and future USDA initiatives, including the School Meals Initiative for Healthy Children (6).

The results of the survey show that:

- ♥ Nutrition is going on in elementary school classrooms
- ♥ Many of the instructional materials and techniques used are those that research indicates may be effective
- ♥ Classroom time currently devoted to this topic may not be sufficient to change eating behaviors in students



Teachers reported that they were interested in receiving in-service training about:

- ♥ Active learning strategies
- ♥ Ways to integrate nutrition lessons into other subjects
- ♥ Ways to involve families in nutrition education

Those who received high support or had some types of training were more likely to do some of these things than teachers with low support or with no training, respectively.

The study emphasizes all the more reason for the need to incorporate all the components of **Step Up and Step Out** in your initiative.

## **A comprehensive nutrition education curriculum**

**Factors to consider when evaluating different programs:**

1. Based on the principles of the Food Guide Pyramid
2. Teaches all foods can fit in a healthy diet
3. Grade specific and coordinated to build on learning from one year to the next
4. Integrates nutrition with other subject matter
5. Provides easy to read teacher lesson plans
6. Provides adequate resources, including the most up-to-date food label information, and Dietary Guidelines (2000 Dietary Guidelines for Americans)
7. Emphasizes physical activity
8. Encourages active participation of students, i.e. food preparation, food safety, tasting, and experiments

Two worksheets, **Identifying School Health Initiative Practices** and a **Nutrition Curriculum Comparison Worksheet**, are found at the end of this module with the factors to consider.

## **How to influence decision makers to try the recipe (4)**

1. Prepare a “case” in support of school-based nutrition education curriculum.
2. Use national data to highlight the importance of the nutritional and physical health of children.
3. Increase confidence that a school nutrition program could be implemented in their school...show them community support.

4. Introduce them to other school or school districts that have school nutrition programs that have been successful.
5. Anticipate problems that will impede or stall adoption, i.e., people or money, and do some ground work to see if some start-up money for materials is available from industry or business in your community. Get commitment from teachers and school food service staff.
6. Provide incentives such as public recognition, or simply accommodating their schedules, having agendas, and following through with assignments.

## **Healthy body image—a key element in nutrition education**

Keep in mind the importance of developing a healthy body when planning nutrition education.



Fostering a positive body image is a component of nutrition education. The American Academy of Pediatrics reports young girls are suffering from negative body image and are engaging in unhealthy behaviors as a result. Pediatricians are seeing an increasing number of children and teens with eating disorders, including anorexia nervosa, bulimia, and obesity. A 1999 survey of 548 girls in 5<sup>th</sup> through 12<sup>th</sup> grade found (3)

- ♥ 59% were dissatisfied with their body shape
- ♥ 66% expressed the desire to lose weight
- ♥ 29% were overweight

To counteract negative self image focus on:

- ♥ An awareness of how body size is often unrealistically portrayed in the media
- ♥ A positive attitude toward eating
- ♥ A “non-dieting” approach to healthy food choices
- ♥ Health rather than appearance

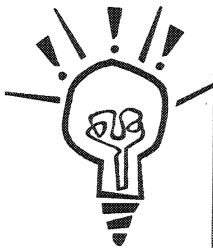


## **References and Resources**

- (1) Information based on “Using the ‘Play Approach’ to Educate Children About Nutrition and Fitness,” Child Nutrition and Health Campaign, the American Dietetic Association.  
<http://www.eatright.org/child/playapproach.html>, and “The play approach to learning in the context of families and schools: An alternative

paradigm for nutrition education in the 21<sup>st</sup> century,” by Karyl L. Rickard, Ph.D., R.D., F.A.D.A., et.al, *J Am Diet Assoc*, 1995: 95:1121-1126.

- (2) Teaching points and activities were developed to in-service teachers of varying grade levels by Claudia Hohnbaum, MA, RD, LD and Vickie James, RD, LD, based on activities and concepts of the Pyramid Pursuit Curriculum. Pyramid Pursuit, a nutrition education curriculum for grades K-6 is based on the Food Guide Pyramid and was developed by the National Food Service Management Institute, the University of Mississippi, P.O. Drawer 188, University, Mississippi 38677-0188, March 1994. 1-800-321-3054.
- (3) Hogan, M. *Media Education Offers Help on Children's Body Image Problems*. AAP NEWS. The American Academy of Pediatrics. Available online: [www.aap.org/advocacy/hogan599.htm](http://www.aap.org/advocacy/hogan599.htm). Accessed July 6, 2000.
- (4) Adapted from NUTRITION—Making a Difference in Schools, A Satellite Videoconference, Division of Nutrition and the Public Health Training Network of the Centers for Disease Control and Prevention, January 1996.
- (5) U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, “Nutrition Education in U.S. Public Elementary School Classrooms, NCES 2000-040, by Carin Celebuski and Elizabeth Farris. For sale by the U.S. Government Printing Office, Superintendent of Documents, Mail Stop: SSOP, Washington, DC 20402-9328.
- (6) For nutrition education resource referrals, check the following websites: TEAM Nutrition @ [www.fns.usda.gov/tn/Educators/index.htm](http://www.fns.usda.gov/tn/Educators/index.htm) for information about Scholastic's In-School Curriculum, or National Food Service Management Institute (1-800-321-3054) @ [www.olemiss.edu/depts/nfsmi/pubindex.html](http://www.olemiss.edu/depts/nfsmi/pubindex.html)



### Module Tip:

“Promoting healthy behaviors among students is an important part of the fundamental mission of schools: to provide young people with the knowledge and skills they need to become healthy, productive adults.”  
...CDC School Health Index

**FAQs:**

- ❑ **Question:** There is so much to teach and so little time. How can nutrition education fit into an already crowded day?

**Answer:** It takes planning, and a change in thinking, but there are opportunities for nutrition education in all subjects, including music and art.

- ❑ **Question:** How is it possible to teach nutrition without taking a nutrition course?

**Answer:** Because people eat food rather than vitamins and minerals, elementary school nutrition education should focus on how to make healthy choices rather than complex scientific principles. Training on how to incorporate the lessons of the Food Guide Pyramid can be provided by local professionals, i.e. registered/licensed dietitians, county home extension agents, or consumer and family science teachers.

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**Module Glossary:**

***Food Guide Pyramid:*** A practical tool for choosing a healthful eating pattern.

***Tasting Party:*** A real-life method of teaching/learning about healthful eating.



## Identifying School Health Initiative Practices

Many potential opportunities exist and should be examined. Including teachers and other school staff up front will increase the degree of success and sustain the changes.

Check the following policy issue questions as you gather information. The information is necessary to formulate programs and develop curriculum.

- ☐ Does a health program currently exist in the school district?
- ☐ Who determines health programs?
- ☐ How are program guidelines determined?
- ☐ Who provides teacher training and how?
- ☐ Will team teaching be a good option?
- ☐ If not, are all teachers involved?
- ☐ Is nutrition curriculum taught in a few schools or is it district-wide?
- ☐ Is it a separate curriculum, or integrated into core subject areas?
- ☐ Is nutrition curriculum tied to physical activity; is physical activity optional or mandatory?
- ☐ Do opportunities exist to involve art, music, and other subjects?
- ☐ How is everything coordinated?

Use the worksheet on the following page to evaluate curricula.



## Nutrition Curriculum Comparison Worksheet:

<b>Curriculum Name:</b>			
<b>Contact Person:</b>			
<b>Order Information Address/Phone</b>			
<b>Cost</b>			
<b>Pre/post tests included?</b>			
<b># Grade levels available</b>			
<b>Extent of prep work required by teachers: (minimal, moderate, extensive?)</b>			
<b># Lessons</b>			
<b>Total number of possible in-class hours</b>			
<b>Based on principles of Food Guide Pyramid?</b>			
<b>Up-to-date information on food labels?</b>			
<b>Up-to date information on Dietary Guidelines?</b>			
<b>Supports concept that "all foods can fit"</b>			
<b>Links classroom with food service and the community</b>			
<b>Emphasizes healthy life-style choices</b>			
<b>Emphasis on physical activity?</b>			
<b>Incorporates active participation by students, i.e. tasting, cooking, and experiments?</b>			
<b>Miscellaneous Information</b>			